


# Exhibit 12

**Exhibit 6 - U.S. Patent No. 9,521,578 (“’578 Patent”)**

Accused Instrumentalities: Samsung Galaxy phones and tablets, and all versions and variations thereof since the issuance of the asserted patent.

**Claim 1**

Issued Claim(s)	Public Documentation
1. A wireless end-user device, comprising:	<p>Samsung Galaxy phones and tablets are each “a wireless end-user device.” For example, the Galaxy S22 is a “wireless device.”</p> 
a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the at least one WWAN;	<p>Samsung Galaxy phones and tablets comprise “a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the at least one WWAN.” For example, the Galaxy S22 includes a wireless modem for communicating with mobile service base stations providing a carrier-provided wireless wide area network.</p>

**Network & Connectivity**

**5G**

5G Non-Standalone (NSA), Standalone (SA), Sub6 / mmWave

**LTE**

Enhanced 4x4 MIMO, Up to 7CA, LTE Cat.20  
Up to 2.0Gbps Download / Up to 200Mbps Upload

**Wi-Fi**

Wi-Fi 802.11 a/b/g/n/ac/ax 2.4G+5GHz+6GHz, HE160, MIMO, 1024-QAM  
Up to 2.4Gbps Download / Up to 2.4Gbps Upload

**Bluetooth**

Bluetooth® v 5.2, USB type-C, NFC, Location(GPS, Galileo, Glonass, BeiDou)

**Ultra Wide Band**










\*Requires optimal connection. Actual speed may vary depending on country, carrier and user environment.  
\*The bandwidths supported by the device may vary depending on the region or service provider.  
\*Download and upload speeds reaching up to 2.4Gbps only available with Wi-Fi 6E. Wi-Fi 6E only supported on Galaxy S22 Ultra and S22+.  
Galaxy S22 has Wi-Fi 6.  
\*Galileo and BeiDou coverage may be limited. BeiDou may not be available for certain countries.

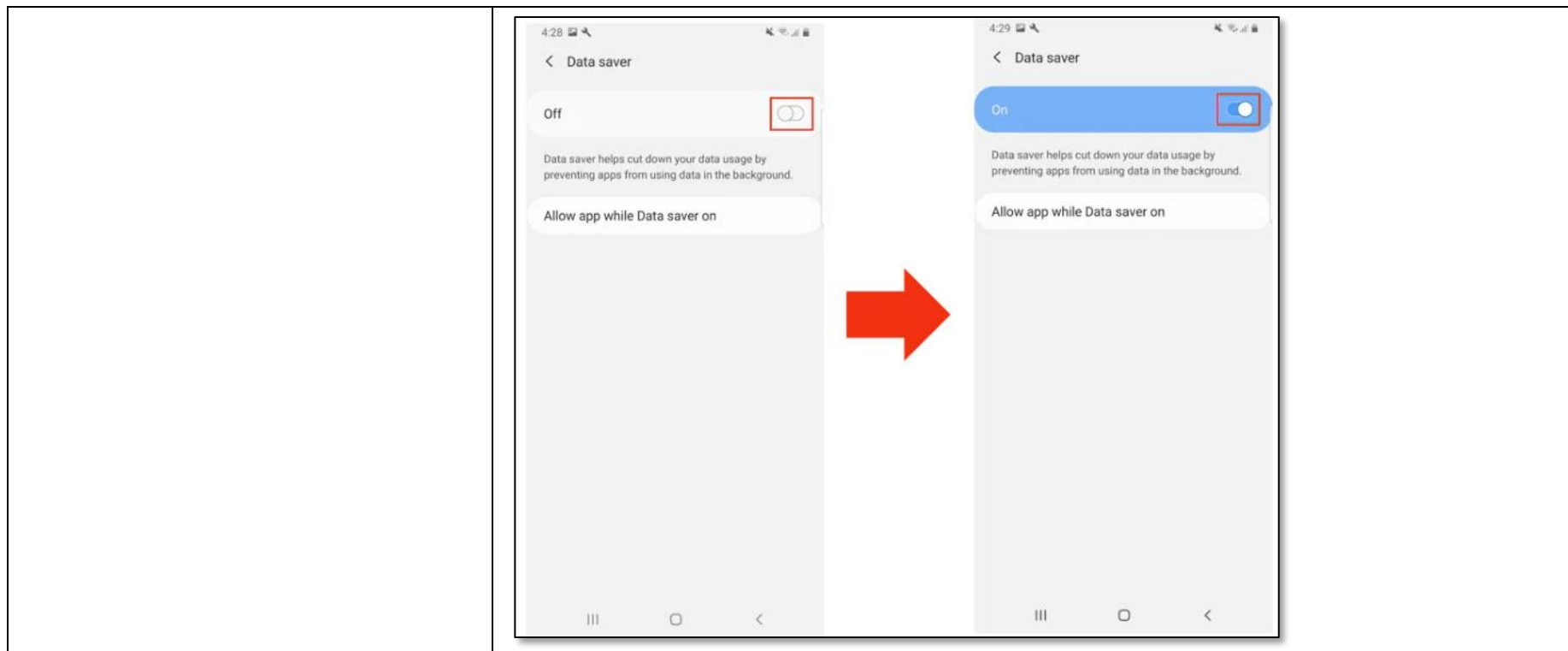
<https://www.samsung.com/us/smartphones/galaxy-s22/models/>

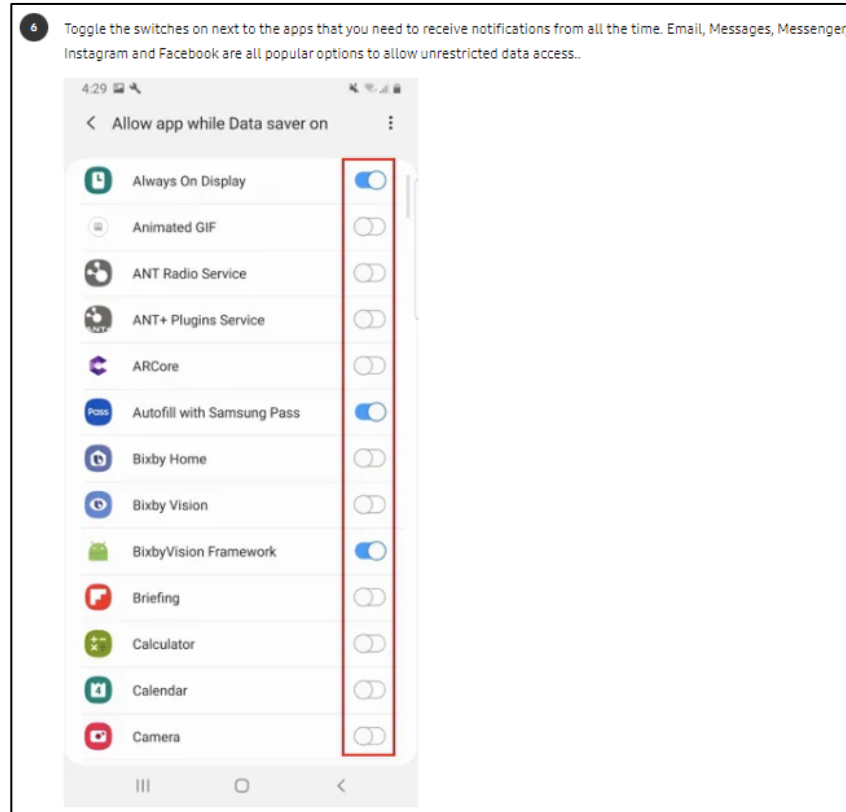
a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the at least one WLAN;

Samsung Galaxy phones and tablets comprise “a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the at least one WLAN.” For example, the Galaxy S22 includes a wireless modem for communicating with wifi networks.

	<div data-bbox="682 164 1692 935" style="border: 1px solid black; padding: 10px;"> <p><b>Network &amp; Connectivity</b></p> <p><b>5G</b></p> <p>5G Non-Standalone (NSA), Standalone (SA), Sub6 / mmWave</p>   <p><b>LTE</b></p> <p>Enhanced 4x4 MIMO, Up to 7CA, LTE Cat.20</p> <p>Up to 2.0Gbps Download / Up to 200Mbps Upload</p>   <p><b>Wi-Fi</b></p> <p>Wi-Fi 802.11 a/b/g/n/ac/ax 2.4G+5GHz+6GHz, HE160, MIMO, 1024-QAM</p> <p>Up to 2.4Gbps Download / Up to 2.4Gbps Upload</p>   <p><b>Bluetooth</b></p> <p>Bluetooth® v 5.2, USB type-C, NFC, Location(GPS, Galileo, Glonass, BeiDou)</p>   <p><b>Ultra Wide Band</b></p>   <p><small>*Requires optimal connection. Actual speed may vary depending on country, carrier and user environment.</small></p> <p><small>*The bandwidths supported by the device may vary depending on the region or service provider.</small></p> <p><small>*Download and upload speeds reaching up to 2.4Gbps only available with Wi-Fi 6E. Wi-Fi 6E only supported on Galaxy S22 Ultra and S22+.</small></p> <p><small>Galaxy S22 has Wi-Fi 6.</small></p> <p><small>*Galileo and BeiDou coverage may be limited. BeiDou may not be available for certain countries.</small></p> </div> <p><a href="https://www.samsung.com/us/smartphones/galaxy-s22/models/">https://www.samsung.com/us/smartphones/galaxy-s22/models/</a></p>
<p>a non-transitory memory to store a differential traffic control policy applicable to data communicated for Internet service activities using the WWAN modem and the at least one WWAN, but not applicable to data communicated for Internet service activities using the WLAN modem and the at least one WLAN;</p>	<p>Samsung Galaxy phones and tablets comprise “a non-transitory memory to store a differential traffic control policy applicable to data communicated for Internet service activities using the WWAN modem and the at least one WWAN, but not applicable to data communicated for Internet service activities using the WLAN modem and the at least one WLAN.”</p> <p>For example, the Galaxy S22 model is sold with 8GB RAM and either 128GB or 256GB non-removable memory storage, in which control policies for applications are stored.</p>

	Storage Options	 128GB   256GB   512GB   1TB	 128GB   256GB	 128GB   256GB
	Processor	 Snapdragon 8 Gen 1	 Snapdragon 8 Gen 1	 Snapdragon 8 Gen 1
	RAM Options	 8GB   12GB	 8GB	 8GB
<a href="https://www.samsung.com/us/smartphones/galaxy-s22/buy/galaxy-s22-128gb-unlocked-sm-s901uzkaxaa/">https://www.samsung.com/us/smartphones/galaxy-s22/buy/galaxy-s22-128gb-unlocked-sm-s901uzkaxaa/</a>				
That memory stores “a differential traffic control policy applicable to data communicated for Internet service activities using the WWAN modem and the at least one WWAN, but not applicable to data communicated for Internet service activities using the WLAN modem and the at least one WLAN.” For example, Samsung’s “data saver” settings apply to limit background refresh messages when no Wifi network is available, but do not affect background refresh messages when the device is connected to a wifi network.				



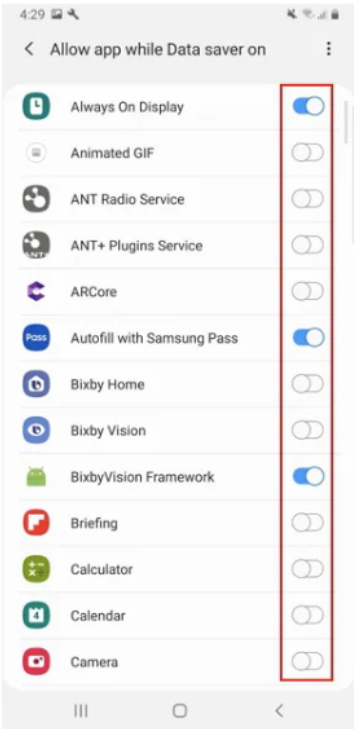


<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>

### “Does data saver apply to Wi-Fi?”

Does data saver affect WiFi? **No, it doesn't.** Data saver only restricts the apps from using mobile data. While you are on WiFi, your phone's data saver won't affect it.”

<https://techshift.net/does-data-saver-apply-to-wi-fi/>

	<p>“The Data Saver option is only when you’re not on WiFi and affects how you see your content.”</p> <p><a href="https://www.technipages.com/how-to-give-android-apps-unrestricted-data-access-data-saver-on">https://www.technipages.com/how-to-give-android-apps-unrestricted-data-access-data-saver-on</a></p>
<p>a user interface to allow a user to set one or more of a plurality of aspects of the differential traffic control policy to select one or more applications that are only allowed to utilize the at least one WWAN for Internet service activities when those applications are classified as interacting with a user in the device user interface foreground; and</p>	<p>Samsung Galaxy phones and tablets comprise a “a user interface to allow a user to set one or more of a plurality of aspects of the differential traffic control policy to select one or more applications that are only allowed to utilize the at least one WWAN for Internet service activities when those applications are classified as interacting with a user in the device user interface foreground” (e.g., the graphical user interface provided by the operating system), as illustrated below.</p> <div data-bbox="682 618 1522 1430"><p>6 Toggle the switches on next to the apps that you need to receive notifications from all the time. Email, Messages, Messenger, Instagram and Facebook are all popular options to allow unrestricted data access..</p></div>



<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>

For further example, Galaxy phones and tablets classify whether apps are running in the foreground or in the background. *See e.g.,*

1. A **foreground process** is one that is required for what the user is currently doing. Various application components can cause its containing process to be considered foreground in different ways. A process is considered to be in the foreground if any of the following conditions hold:
  - It is running an **Activity** at the top of the screen that the user is interacting with (its **onResume()** method has been called).
  - It has a **BroadcastReceiver** that is currently running (its **BroadcastReceiver.onReceive()** method is executing).
  - It has a **Service** that is currently executing code in one of its callbacks (**Service.onCreate()**, **Service.onStart()**, or **Service.onDestroy()**).

There will only ever be a few such processes in the system, and these will only be killed as a last resort if memory is so low that not even these processes can continue to run. Generally, at this point, the device has reached a memory paging state, so this action is required in order to keep the user interface responsive.


<https://developer.android.com/guide/components/activities/process-lifecycle>;

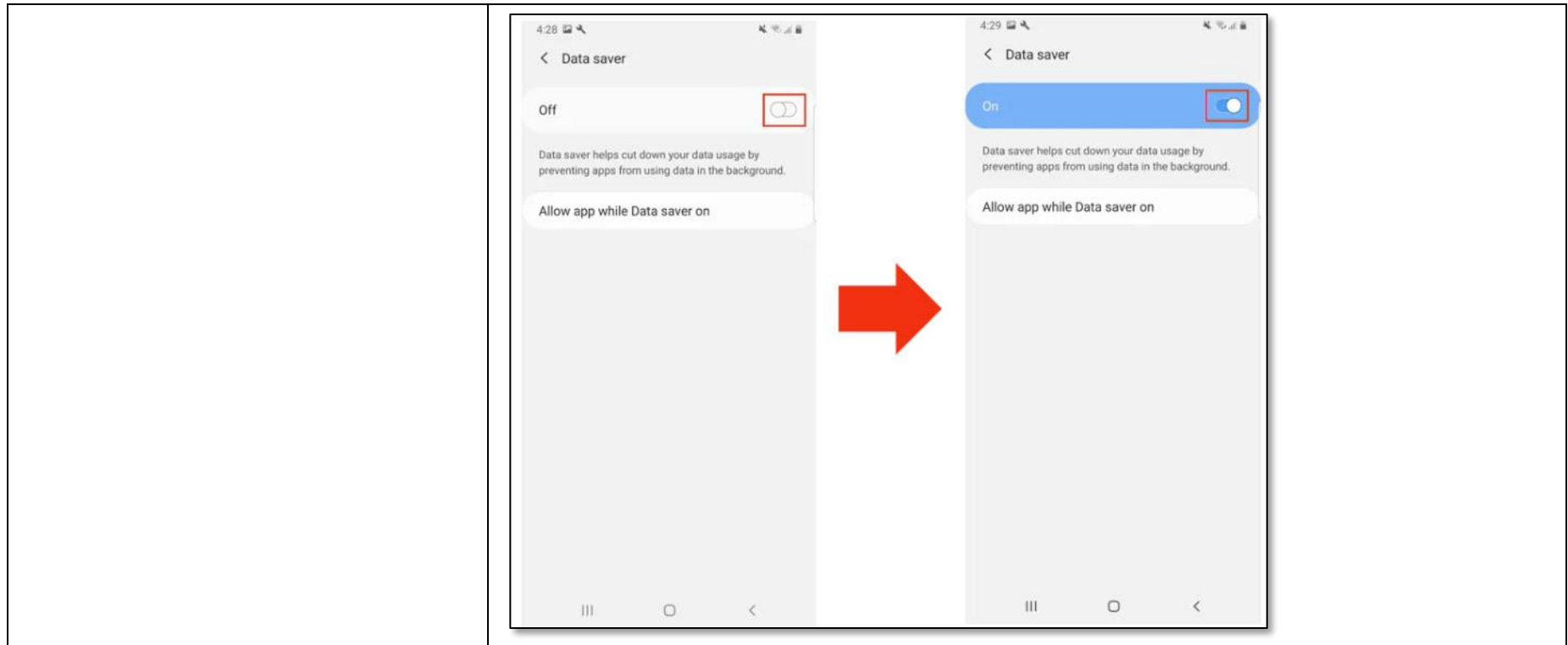
## Definition of background work

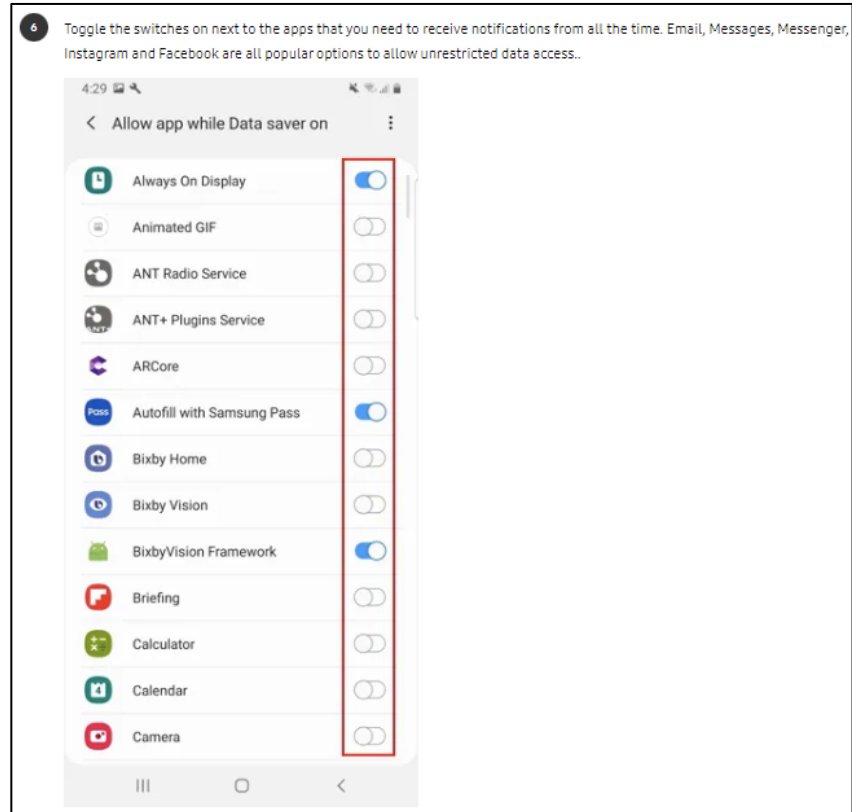
An app is running in the *background* when both the following conditions are satisfied:

- None of the app's activities are currently visible to the user.
- The app isn't running any **foreground services** that started while an activity from the app was visible to the user.

Otherwise, the app is running in the *foreground*.

	<a href="https://developer.android.com/guide/background">https://developer.android.com/guide/background</a> .
one or more processors configured to implement an application program interface (API) that allows a particular application to access one or more aspects of the differential traffic control policy applicable to that application, including whether the user-settable aspects of the policy only allow the particular application to utilize the at least one WWAN for Internet service activities when the particular application is classified as interacting with a user in the device user interface foreground.	<p>Samsung Galaxy phones and tablets comprise “one or more processors configured to implement an application program interface (API) that allows a particular application to access one or more aspects of the differential traffic control policy applicable to that application, including whether the user-settable aspects of the policy only allow the particular application to utilize the at least one WWAN for Internet service activities when the particular application is classified as interacting with a user in the device user interface foreground.”</p> <p>For example, the Galaxy S22 has either a Snapdragon (in the United States) or Exynos (in Korea) architecture-based application processor.</p> <div data-bbox="669 591 1409 610" style="background-color: #f0f0f0; height: 12px; margin: 10px 0;"></div> <div data-bbox="1003 662 1075 735" style="text-align: center;"></div> <p style="text-align: center;"><b>Snapdragon 8 Gen 1</b></p> <p>The processor is configured to implement an application program interface (API) that allows a particular application to access one or more aspects of the differential traffic control policy applicable to that application, including whether the user-settable aspects of the policy only allow the particular application to utilize the at least one WWAN for Internet service activities when the particular application is classified as interacting with a user in the device user interface foreground. For example, whether “data saver” is turned on for a particular application (a “user-settable aspect” of the policy) allows or prevents that application from utilizing the WWAN for certain Internet service activities while only in the background.</p>





<https://www.samsung.com/ae/support/mobile-devices/android-pie-what-is-the-data-saver-feature/>

For further example, Galaxy phones and tablets classify whether apps are running in the foreground or in the background. *See e.g.,*

1. A **foreground process** is one that is required for what the user is currently doing. Various application components can cause its containing process to be considered foreground in different ways. A process is considered to be in the foreground if any of the following conditions hold:

- It is running an `Activity` at the top of the screen that the user is interacting with (its `onResume()` method has been called).
- It has a `BroadcastReceiver` that is currently running (its `BroadcastReceiver.onReceive()` method is executing).
- It has a `Service` that is currently executing code in one of its callbacks (`Service.onCreate()`, `Service.onStart()`, or `Service.onDestroy()`).

There will only ever be a few such processes in the system, and these will only be killed as a last resort if memory is so low that not even these processes can continue to run. Generally, at this point, the device has reached a memory paging state, so this action is required in order to keep the user interface responsive.

<https://developer.android.com/guide/components/activities/process-lifecycle>;

## Definition of background work

An app is running in the *background* when both the following conditions are satisfied:

- None of the app's activities are currently visible to the user.
- The app isn't running any **foreground services** that started while an activity from the app was visible to the user.

Otherwise, the app is running in the *foreground*.

<https://developer.android.com/guide/background>.